Question #1 of 60

Question ID: 692270

Questions 1-6 relate to Goldensand Jewelry, Ltd.

Introduction

Rajesh Singh is the CFO of Goldensand Jewelry, Ltd, a London-based retailer of fine jewelry and watches. Singh has noticed that the price of gold has begun to increase. If economic activity continues to pick up, the price of gold is likely to accelerate its rate of increase as both the level of demand and inflation rates increase.

Implications of Rising Gold Price

Singh has become concerned about the cost implications for Goldensand if gold prices continue to rise. He has requested a meeting with Anita Biscayne, Goldensand's COO. In preparation for the meeting, Singh asked one of his staff, Yasunobu Hara, to prepare a regression analysis comparing the price of gold to the average cost of Goldensand's purchases of finished gold jewelry. Hara provides the regression results as shown in Exhibit 1.

Exhibit 1: 1979-2009 Annual Data (31 Observations)

Variable	*Coefficient*	*Standard Error of the Coefficient*
Intercept	11.06	7.29
Cost of gold	2.897	0.615
standard error of the forecast = 117.8		

Exhibit 2: Partial Student's *t*-distribution Table

			Level of Significance for One-Tailed Test			
df	**0.100**	**0.050**	**0.025**	**0.010**	**0.005**	**0.0005**
			Level of Significance for Two-Tailed Test			
df	**0.200**	**0.100**	**0.050**	**0.020**	**0.010**	**0.001**
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
31	1.309	1.696	2.040	2.453	2.744	3.636

Reviewing the regression results, Biscayne becomes concerned about the implications for the cost of finished jewelry to Goldensand if the price of gold continues to rise. To remain profitable, the cost of finished jewelry should not exceed $2,000.

Regression Concerns

Overall Concerns

Singh's principal concern about the regression is whether the time period chosen is a good predictor of the current situation. He makes the following statement:

Statement 1: We may have a problem with parameter instability if the relationship between gold prices and jewelry costs has changed over the past 30 years.

Singh also focuses on the value of the slope coefficient. He expected it to be 4.0 based on his experience in the industry. Hara computes the appropriate test statistic and reports the following:

Statement 2: We fail to reject the null hypothesis that the slope coefficient is equal to 4.0 at the 5% level of significance.

Testing for Heteroskedasticity

Biscayne remarks that the dramatic increase in the price level over the past 30 years leads her to suspect heteroskedasticity in the regression results. She suggests to Singh that they should conduct a Breusch-Pagan chi-square test for heteroskedasticity by calculating the following test statistic:

> $n \times R^2$ with k degrees of freedom

> where:
> n = number of observations
> R^2 = R^2 of the regression of jewelry prices on gold prices
> k = number of independent variables

Model Misspecification

Biscayne and Singh have various views on the potential for model misspecification and the effect of any such misspecification.

- Biscayne worries that the regression model is misspecified because it does not include a variable to measure the cost of the highly specialized labor used by manufacturing jewelers. She points out that the effect of omitting an important variable in a regression analysis is that the regression coefficients will be unbiased and inconsistent.
- Singh adds that another common consequence of misspecifying a regression analysis is creating undesired stationarity.

Multiple Regression

Hara conducts a series of regression analyses using all possible combinations of the suggested independent variables based on their average quarterly values. He returns with the following regression results as shown in Exhibit 3 for the equation which uses all suggested independent variables.

Exhibit 3: 1999-2009 Quarterly Data (44 Observations)

Independent Variables	*Coefficient*	*t-Statistic*
Intercept	−3.9	3.7
Gold price	4.7	14.5
Silver price	1.2	7.8
Platinum price	3.5	3.1
Labor costs	0.82	2.4
GDP (EU)	0.000274	5.7
GDP (Middle East)	0.000049	3.6
Personal income (EU)	0.000314	2.1
Personal income (Middle East)	0.009876	2.2
R^2: 0.55		
Durbin-Watson: 3.89		

Hara is concerned about the equation described in Exhibit 3. He makes the following statement:

Statement 3: The model appears to suffer from multicollinearity. Dropping one or more independent variables will increase the coefficient of determination.

Biscayne responds with the following statement:

Statement 4: An autocorrelation problem can be addressed by using the Hansen method to adjust the R^2.

Exhibit 4: Partial Durbin-Watson Table

Critical Values for the Durbin-Watson Statistic ($\propto$ = 0.05)						
	K = 3		*K = 4*		*K = 5*	
n	d_1	d_u	d_1	d_u	d_1	d_u
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40	1.34	1.66	1.29	1.72	1.23	1.79
45	1.38	1.67	1.34	1.72	1.29	1.78

.....

The per ounce price of gold that corresponds to the $2,000 cost of finished jewelry is *closest* to:

A) $687.

B) $712.

C) $3,240.

Question #2 of 60

Question ID: 692269

Introduction

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Implications of Rising Gold Price

Singh has become concerned about the cost implications for Goldensand if gold prices continue to rise. He has requested a meeting with Anita Biscayne, Goldensand's COO. In preparation for the meeting, Singh asked one of his staff, Yasunobu Hara, to prepare a regression analysis comparing the price of gold to the average cost of Goldensand's purchases of finished gold jewelry. Hara provides the regression results as shown in Exhibit 1.

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df	**0.100**	**0.050**	**0.025**	**0.010**	**0.005**	**0.0005**
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df	**0.200**	**0.100**	**0.050**	**0.020**	**0.010**	**0.001**
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31	1.309	1.696	2.040	2.453	2.744	3.636

Reviewing the regression results, Biscayne becomes concerned about the implications for the cost of finished jewelry to Goldensand if the price of gold continues to rise. To remain profitable, the cost of finished jewelry should not exceed $2,000.

Regression Concerns

Overall Concerns

Singh's principal concern about the regression is whether the time period chosen is a good predictor of the current situation. He makes the following statement:

Statement 1: We may have a problem with parameter instability if the relationship between gold prices and jewelry costs has changed over the past 30 years.

Singh also focuses on the value of the slope coefficient. He expected it to be 4.0 based on his experience in the industry. Hara computes the appropriate test statistic and reports the following:

Statement 2: We fail to reject the null hypothesis that the slope coefficient is equal to 4.0 at the 5% level of significance.

Testing for Heteroskedasticity

Biscayne remarks that the dramatic increase in the price level over the past 30 years leads her to suspect heteroskedasticity in the regression results. She suggests to Singh that they should conduct a Breusch-Pagan chi-square test for heteroskedasticity by calculating the following test statistic:

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> where:
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Model Misspecification

Biscayne and Singh have various views on the potential for model misspecification and the effect of any such misspecification.

- Biscayne worries that the regression model is misspecified because it does not include a variable to measure the cost of the highly specialized labor used by manufacturing jewelers. She points out that the effect of omitting an important variable in a regression analysis is that the regression coefficients will be unbiased and inconsistent.

- Singh adds that another common consequence of misspecifying a regression analysis is creating undesired stationarity.

Multiple Regression

Hara conducts a series of regression analyses using all possible combinations of the suggested independent variables based on their average quarterly values. He returns with the following regression results as shown in Exhibit 3 for the equation which uses all suggested independent variables.

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Independent Variables	*Coefficient*	*t-Statistic*
Intercept	−3.9	3.7
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Personal income (EU)	0.000314	2.1
Personal income (Middle East)	0.009876	2.2
R^2: 0.55		
Durbin-Watson: 3.89		

Hara is concerned about the equation described in Exhibit 3. He makes the following statement:

Statement 3: The model appears to suffer from multicollinearity. Dropping one or more independent variables will increase the coefficient of determination.

Biscayne responds with the following statement:

Statement 4: An autocorrelation problem can be addressed by using the Hansen method to adjust the R^2.

Exhibit 4: Partial Durbin-Watson Table

Critical Values for the Durbin-Watson Statistic ($\propto$ = 0.05)						
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40	1.34	1.66	1.29	1.72	1.23	1.79
45	1.38	1.67	1.34	1.72	1.29	1.78

.....

Are Singh (Statement 1) and Hara (Statement 2) correct or incorrect regarding the usefulness of regression results described in Exhibit 1 and the value of the slope coefficient?

A) Both are correct.

B) One is correct, the other is incorrect.

C) Both are incorrect.

Question #3 of 60

Question ID: 692272

Introduction

Rajesh Singh is the CFO of Goldensand Jewelry, Ltd, a London-based retailer of fine jewelry and watches. Singh has noticed that the price of gold has begun to increase. If economic activity continues to pick up, the price of gold is likely to accelerate its rate of increase as both the level of demand and inflation rates increase.

Implications of Rising Gold Price

Singh has become concerned about the cost implications for Goldensand if gold prices continue to rise. He has requested a meeting with Anita Biscayne, Goldensand's COO. In preparation for the meeting, Singh asked one of his staff, Yasunobu Hara, to prepare a regression analysis comparing the price of gold to the average cost of Goldensand's purchases of finished gold jewelry. Hara provides the regression results as shown in Exhibit 1.

Exhibit 1: 1979-2009 Annual Data (31 Observations)

Variable	*Coefficient*	*Standard Error of the Coefficient*
Intercept	11.06	7.29
Cost of gold	2.897	0.615
standard error of the forecast = 117.8		

Exhibit 2: Partial Student's *t*-distribution Table

Level of Significance for One-Tailed Test						
df	**0.100**	**0.050**	**0.025**	**0.010**	**0.005**	**0.0005**
Level of Significance for Two-Tailed Test						
df	**0.200**	**0.100**	**0.050**	**0.020**	**0.010**	**0.001**
29	1.311	1.699	2.045	2.462	2.756	3.659
30	1.310	1.697	2.042	2.457	2.750	3.646
31	1.309	1.696	2.040	2.453	2.744	3.636

Reviewing the regression results, Biscayne becomes concerned about the implications for the cost of finished jewelry to Goldensand if the price of gold continues to rise. To remain profitable, the cost of finished jewelry should not exceed $2,000.

Regression Concerns

Overall Concerns

Singh's principal concern about the regression is whether the time period chosen is a good predictor of the current situation. He makes the following statement:

Statement 1: We may have a problem with parameter instability if the relationship between gold prices and jewelry costs has changed over the past 30 years.

Singh also focuses on the value of the slope coefficient. He expected it to be 4.0 based on his experience in the industry. Hara computes the appropriate test statistic and reports the following:

Statement 2: We fail to reject the null hypothesis that the slope coefficient is equal to 4.0 at the 5% level of significance.

Testing for Heteroskedasticity

Biscayne remarks that the dramatic increase in the price level over the past 30 years leads her to suspect heteroskedasticity in the regression results. She suggests to Singh that they should conduct a Breusch-Pagan chi-square test for heteroskedasticity by calculating the following test statistic:

> $n \times R^2$ with k degrees of freedom
>
> where:
> n = number of observations
> R^2 = R^2 of the regression of jewelry prices on gold prices
> k = number of independent variables

Model Misspecification

Biscayne and Singh have various views on the potential for model misspecification and the effect of any such misspecification.

- Biscayne worries that the regression model is misspecified because it does not include a variable to measure the cost of the highly specialized labor used by manufacturing jewelers. She points out that the effect of omitting an important variable in a regression analysis is that the regression coefficients will be unbiased and inconsistent.
- Singh adds that another common consequence of misspecifying a regression analysis is creating undesired stationarity.

Multiple Regression

Hara conducts a series of regression analyses using all possible combinations of the suggested independent variables based on their average quarterly values. He returns with the following regression results as shown in Exhibit 3 for the equation which uses all suggested independent variables.

Exhibit 3: 1999-2009 Quarterly Data (44 Observations)

Independent Variables	*Coefficient*	*t-Statistic*
Intercept	−3.9	3.7
Gold price	4.7	14.5

Silver price	1.2	7.8
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Labor costs	0.82	2.4
GDP (EU)	0.000274	5.7
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Personal income (EU)	0.000314	2.1
Personal income (Middle East)	0.009876	2.2
R^2: 0.55		
Durbin-Watson: 3.89		

Hara is concerned about the equation described in Exhibit 3. He makes the following statement:

Statement 3: The model appears to suffer from multicollinearity. Dropping one or more independent variables will increase the coefficient of determination.

Biscayne responds with the following statement:

Statement 4: An autocorrelation problem can be addressed by using the Hansen method to adjust the R^2.

Exhibit 4: Partial Durbin-Watson Table

Critical Values for the Durbin-Watson Statistic ($\propto$ = 0.05)						
	K = 3		*K = 4*		*K = 5*	
n	d_1	d_u	d_1	d_u	d_1	d_u
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40	1.34	1.66	1.29	1.72	1.23	1.79
45	1.38	1.67	1.34	1.72	1.29	1.78

.....

Is Biscayne correct with regard to the specification of the Breusch-Pagan test?

A) No, because it is an *F*-test.

B) No, because the wrong R^2 is used.

C) No, because the degrees of freedom are equal to k and n - k - 1.

Question #4 of 60

Question ID: 692274

Introduction

Rajesh Singh is the CFO of Goldensand Jewelry, Ltd, a London-based retailer of fine jewelry and watches. Singh has noticed that the price of gold has begun to increase. If economic activity continues to pick up, the price of gold is likely to accelerate its rate of increase as both the level of demand and inflation rates increase.

Implications of Rising Gold Price

Singh has become concerned about the cost implications for Goldensand if gold prices continue to rise. He has requested a meeting with Anita Biscayne, Goldensand's COO. In preparation for the meeting, Singh asked one of his staff, Yasunobu Hara, to prepare a regression analysis comparing the price of gold to the average cost of Goldensand's purchases of finished gold jewelry. Hara provides the regression results as shown in Exhibit 1.

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Variable	*Coefficient*	*Standard Error of the Coefficient*
Intercept	11.06	7.29
Cost of gold	2.897	0.615
standard error of the forecast = 117.8		

Exhibit 2: Partial Student's *t*-distribution Table

	Level of Significance for One-Tailed Test					
df	**0.100**	**0.050**	**0.025**	**0.010**	**0.005**	**0.0005**

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df	**0.200**	**0.100**	**0.050**	**0.020**	**0.010**	**0.001**
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31	1.309	1.696	2.040	2.453	2.744	3.636

Reviewing the regression results, Biscayne becomes concerned about the implications for the cost of finished jewelry to Goldensand if the price of gold continues to rise. To remain profitable, the cost of finished jewelry should not exceed $2,000.

Regression Concerns

Overall Concerns

Singh's principal concern about the regression is whether the time period chosen is a good predictor of the current situation. He makes the following statement:

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Singh also focuses on the value of the slope coefficient. He expected it to be 4.0 based on his experience in the industry. Hara computes the appropriate test statistic and reports the following:

Statement 2: We fail to reject the null hypothesis that the slope coefficient is equal to 4.0 at the 5% level of significance.

Testing for Heteroskedasticity

Biscayne remarks that the dramatic increase in the price level over the past 30 years leads her to suspect heteroskedasticity in the regression results. She suggests to Singh that they should conduct a Breusch-Pagan chi-square test for heteroskedasticity by calculating the following test statistic:

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Model Misspecification

Biscayne and Singh have various views on the potential for model misspecification and the effect of any such misspecification.

- Biscayne worries that the regression model is misspecified because it does not include a variable to measure the cost of the highly specialized labor used by manufacturing jewelers. She points out that the effect of omitting an important variable in a regression analysis is that the regression coefficients will be unbiased and inconsistent.
- Singh adds that another common consequence of misspecifying a regression analysis is creating undesired stationarity.

Multiple Regression

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R^2: 0.55		
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Hara is concerned about the equation described in Exhibit 3. He makes the following statement:

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Critical Values for the Durbin-Watson Statistic ($\propto$ = 0.05)						
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45	1.38	1.67	1.34	1.72	1.29	1.78

Regarding the comments on the potential consequences of misspecification in the simple linear regression, is Singh correct or incorrect regarding his comment on his concern over stationarity, and is Biscayne correct or incorrect about the effect of omitting an important variable?

A) Only Singh is incorrect.

B) Only Biscayne is incorrect.

C) Both are incorrect.

Question #5 of 60

Question ID: 692271

Introduction

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Implications of Rising Gold Price

Singh has become concerned about the cost implications for Goldensand if gold prices continue to rise. He has requested a meeting with Anita Biscayne, Goldensand's COO. In preparation for the meeting, Singh asked one of his staff, Yasunobu Hara, to prepare a regression analysis comparing the price of gold to the average cost of Goldensand's purchases of finished gold jewelry. Hara provides the regression results as shown in Exhibit 1.

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Reviewing the regression results, Biscayne becomes concerned about the implications for the cost of finished jewelry to Goldensand if the price of gold continues to rise. To remain profitable, the cost of finished jewelry should not exceed $2,000.

Regression Concerns

Overall Concerns

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45	1.38	1.67	1.34	1.72	1.29	1.78

Is Hara's Statement 3 about multicollinearity accurate?

A) Yes.

B) No, because removal of independent variables is a remedy for residual autocorrelation.

C) No, because the coefficient of determination would not increase.

Question #6 of 60

Question ID: 692273

Introduction

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Overall Concerns

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equal to 4.0 at the 5% level of significance.

Testing for Heteroskedasticity

Biscayne remarks that the dramatic increase in the price level over the past 30 years leads her to suspect heteroskedasticity in the regression results. She suggests to Singh that they should conduct a Breusch-Pagan chi-square test for heteroskedasticity by calculating the following test statistic:

> $n \times R^2$ with k degrees of freedom
>
> where:
> n = number of observations
> $R^2 = R^2$ of the regression of jewelry prices on gold prices
> k = number of independent variables

Model Misspecification

Biscayne and Singh have various views on the potential for model misspecification and the effect of any such misspecification.

- Biscayne worries that the regression model is misspecified because it does not include a variable to measure the cost of the highly specialized labor used by manufacturing jewelers. She points out that the effect of omitting an important variable in a regression analysis is that the regression coefficients will be unbiased and inconsistent.
- Singh adds that another common consequence of misspecifying a regression analysis is creating undesired stationarity.

Multiple Regression

Hara conducts a series of regression analyses using all possible combinations of the suggested independent variables based on their average quarterly values. He returns with the following regression results as shown in Exhibit 3 for the equation which uses all suggested independent variables.

Exhibit 3: 1999-2009 Quarterly Data (44 Observations)

Independent Variables	*Coefficient*	*t-Statistic*
Intercept	−3.9	3.7
Gold price	4.7	14.5
Silver price	1.2	7.8
Platinum price	3.5	3.1
Labor costs	0.82	2.4
GDP (EU)	0.000274	5.7
GDP (Middle East)	0.000049	3.6
Personal income (EU)	0.000314	2.1
Personal income (Middle East)	0.009876	2.2
R^2: 0.55		
Durbin-Watson: 3.89		

Hara is concerned about the equation described in Exhibit 3. He makes the following statement:

Statement 3: The model appears to suffer from multicollinearity. Dropping one or more independent variables will increase the coefficient of determination.

Biscayne responds with the following statement:

Statement 4: An autocorrelation problem can be addressed by using the Hansen method to adjust the R^2.

Exhibit 4: Partial Durbin-Watson Table

Critical Values for the Durbin-Watson Statistic ($\propto$ = 0.05)						
	K = 3		*K = 4*		*K = 5*	
n	d_1	d_u	d_1	d_u	d_1	d_u
39	1.33	1.66	1.27	1.72	1.22	1.79
40	1.34	1.66	1.29	1.72	1.23	1.79
45	1.38	1.67	1.34	1.72	1.29	1.78

.....

Is Biscayne correct regarding his statement concerning how to correct for autocorrelation?

A) No, because the White method is used to adjust the R^2.

B) No, because the Hansen method adjusts the coefficient standard errors.

C) No, because the Hansen method is used to address the problem of multicollinearity.

Question #7 of 60

Question ID: 692275

Questions 7-12 relate to Kay Longton, CFA.

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Longton is currently reviewing the investments in question in order to report to Coreblue whether any warning signs were evident from the financial statements. Longton hopes this report will lead to a much bigger project for BKJE involving redesign of Coreblue's screening and analysis process.

The first company Longton is reviewing, Reddyfast, Inc., rose to prominence in 2012 when it promised to deliver custom built kitchen/dining room extensions in customer backyards, which could be built on-site in a day. Longton intends to include in her report the following extracts from Reddyfast's financial statements shown in Exhibit 1.

Exhibit 1 - Reddyfast Financial Statements and Notes (Extracts, $ '000s)

	2012	*2013*	*2014*
Revenue	14,000	13,720	15,915
Cost of Goods Sold	(11,340)	(10,976)	(12,891)
Gross Profit	2,660	2,744	3,024
Accounts Receivable *(note 1)*	1,789	1,907	2,610

Note 1 - Accounts Receivable Securitization
In 2014, the company received $400,000 from the sale of accounts receivable. These balances are not shown in the accounts receivable figure in the balance sheet. An associated finance charge has been disclosed in operating profit for the year.

Longton has isolated these figures as she believes that analysis of the relationship between receivables and revenue should have revealed cause for concern over the period 2012-2014. She intends to restate the financial statements for accounts receivables sold, and then compute the trend in days of sales outstanding using end-of-year receivables.

Longton plans to make the following statements concerning inventory management trends that Coreblue should be on the lookout for:

> **Statement 1**
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> **Statement 2**
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Longton is concerned that EB's growth is fueled largely by income from associates, and, as a result, Longton intends to prepare a report showing the core ROE without including the results on such investments. In order to illustrate the driving forces behind ROE, she intends to perform a classic DuPont analysis that excludes the impact of associates from the margin and turnover ratios. One of Longton's interns has prepared the extracts shown in Exhibit 2 to assist with the analysis.

Exhibit 2 - EB Financial Statements (Extracts, $ millions)

	2014	*2015*	*2016*
Revenue	**11,719**	**12,071**	**12,795**

Cost of Goods Sold	9,243	9,502	10,357
Research and Development	80	78	76
Depreciation and Amortization	831	839	864
Other Operating Expenses	590	625	675
Total Expenses	**10,744**	**11,045**	**11,973**
Operating Profit	**975**	**1,026**	**822**
Finance Costs	(178)	(183)	(194)
Finance Income	23	23	23
Income From Associates	56	63	94
Profit Before Tax	**876**	**929**	**745**
Tax	(157)	(159)	(160)
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Balance Sheet			
Non-Current Assets			
PPE	8,120	8,193	8,203
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Total Non-Current Assets	**11,848**	**12,165**	**12,921**
Total Current Assets	**3,245**	**3,345**	**3,354**
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Due to the nature of its business, Yopatta (like its peers) has relatively few tangible assets on its balance sheet. However, on reviewing the notes to the balance sheet, Longton identifies that Yopatta has a significant operating lease commitment. Using end-of-year reported balance sheet data, Longton calculated Yopatta's debt-to-equity ratio to be 48%. She now intends to restate the ratio after capitalizing operating lease commitments using the information in Exhibit 3.

Exhibit 3 - Yopatta Leverage

Balance Sheet 31 Dec 2015 As Reported	
Non-Current Assets	7,892
Current Assets	6,422
Total Assets	14,314
Debt	2,367
Other Liabilities	7,011
Total Liabilities	9,378
Shareholders' Equity	4,936

> *Notes:*
>
> **Operating Lease Commitments**
>
> Yopatta is committed to making the following payments under non-cancellable operating leases:

	$ millions
Year ended 31 December 2016	148
Year ended 31 December 2017	148
Year ended 31 December 2018	148
Year ended 31 December 2019	148
Year ended 31 December 2020	98

Years ending 31 December 2021-25	490

Longton assumes that all lease payments occur at the end of each year, and that the payments from 2021-25 are all equal. Yopatta recently went to the market and issued senior unsecured debt at a yield of 4%; Longton intends to apply this rate to capitalize the operating lease.

Longton believes that this recalculation is essential for all companies with operating leases as she believes that U.S. GAAP will very soon be updated to require the capitalization of all operating leases longer than one year. As a result, Longton will add the following comment on the impact on the income statement in her report:

> ***Potential Accounting Policy Change***
>
> *The requirement to capitalize operating leases will impact not only leverage ratios, but also coverage ratios based on the income statement. This lease capitalization will result in a decrease in operating profit, a decrease in interest expense, and a decrease in interest coverage ratios.*

.....

Using the information in Exhibit 1 and Longton's stated method of calculation, Longton is *most likely* to conclude that Reddyfast's:

A) days of sales outstanding increased by approximately 28% between 2012 and 2014, possibly due to aggressive revenue recognition or quicker receivables collection.

B) days of sales outstanding increased by approximately 47% between 2012 and 2104, possibly due to aggressive revenue recognition or poor receivables management.

C) receivables turnover increased by approximately 21% between 2012 and 2014, possibly due to increased collection periods and aggressive revenue recognition policies.

Question #8 of 60

Question ID: 692276

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Notes:

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.....

Statement 1 by Longton is *most likely* to be:

A) correct.

B) incorrect with respect to revenue.

C) incorrect with respect to cash flows.

Question #9 of 60

Question ID: 692277

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.....

Statement 2 by Longton is *most likely* to be:

A) correct.

B) incorrect, because accruals component of earnings is more persistent.

C) incorrect, because in for formula given, a high α (not β) represents persistence.

Question #10 of 60

Question ID: 692278

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Finance Income	23	23	23
Income From Associates	56	63	94
Profit Before Tax	**876**	**929**	**745**
Tax	(157)	(159)	(160)
Profit After Tax	**719**	**770**	**585**
Non-Controlling Interest	(16)	(16)	(16)

Net Income Attributable to Shareholders of Parent	**703**	**754**	**568**
Balance Sheet			
Non-Current Assets			
PPE	8,120	8,193	8,203
Intangibles	982	980	992
Investment in Associates	1,733	1,890	2,014
Other Non-Current Assets	1,013	1,102	1,712
Total Non-Current Assets	**11,848**	**12,165**	**12,921**
Total Current Assets	**3,245**	**3,345**	**3,354**
Total Assets	**15,093**	**15,510**	**16,275**
Total Liabilities	**10,678**	**10,899**	**11,010**
Shareholders' Equity	**4,415**	**4,611**	**5,265**

The third company under review is Yopatta Solutions, Inc. The company provides marketing and advertising services to a variety of clients, promising to deliver a "one stop shop" solution for all client customer communication needs.

Due to the nature of its business, Yopatta (like its peers) has relatively few tangible assets on its balance sheet. However, on reviewing the notes to the balance sheet, Longton identifies that Yopatta has a significant operating lease commitment. Using end-of-year reported balance sheet data, Longton calculated Yopatta's debt-to-equity ratio to be 48%. She now intends to restate the ratio after capitalizing operating lease commitments using the information in Exhibit 3.

Exhibit 3 - Yopatta Leverage

Balance Sheet 31 Dec 2015 As Reported	
Non-Current Assets	7,892
Current Assets	6,422
Total Assets	14,314
Debt	2,367
Other Liabilities	7,011
Total Liabilities	9,378
Shareholders' Equity	4,936

> *Notes:*
>
> **Operating Lease Commitments**
>
> Yopatta is committed to making the following payments under non-cancellable operating leases:

	$ millions
Year ended 31 December 2016	148
Year ended 31 December 2017	148
Year ended 31 December 2018	148
Year ended 31 December 2019	148
Year ended 31 December 2020	98
Years ending 31 December 2021-25	490

Longton assumes that all lease payments occur at the end of each year, and that the payments from 2021-25 are all equal. Yopatta recently went to the market and issued senior unsecured debt at a yield of 4%; Longton intends to apply this rate to capitalize the operating lease.

Longton believes that this recalculation is essential for all companies with operating leases as she believes that U.S. GAAP will very soon be updated to require the capitalization of all operating leases longer than one year. As a result, Longton will add the following comment on the impact on the income statement in her report:

> ***Potential Accounting Policy Change***
>
> *The requirement to capitalize operating leases will impact not only leverage ratios, but also coverage ratios based on the income statement. This lease capitalization will result in a decrease in operating profit, a decrease in interest expense, and a decrease in interest coverage ratios.*

.....

Using Exhibit 2, Longton is *most likely* to conclude that EB's associates' contribution to ROE in 2016 was:

A) more than in 2015.

B) about the same as in 2015.

C) less than in 2015.

Question #11 of 60

Question ID: 692279

Kay Longton, CFA, works as an equity analyst for BKJE Services, a small advisory firm Longton founded with three colleagues she previously worked with. BKJE offers a range of services to both institutional and retail investors and prides itself on its ability to service both clients with relatively shallow knowledge of the markets as well as experienced veterans.

Currently Longton is engaged with Coreblue, a buy-side client that has recently seen a significant downturn in the performance of several of its actively managed funds. As recently as 2014, Coreblue was featured in lists highlighting the best performing funds, but recent poor performance has resulted in a 24% drop in assets under management. A thorough in-house review revealed that several of the historically best-performing investments in one of Coreblue's biggest funds had not been subject to the mandatory screening process. Three of these investments subsequently saw decreases in market capitalization of more than 40% and were responsible for more than 70% of the drop in the fund's active return.

Longton is currently reviewing the investments in question in order to report to Coreblue whether any warning signs were evident from the financial statements. Longton hopes this report will lead to a much bigger project for BKJE involving redesign of Coreblue's screening and analysis process.

The first company Longton is reviewing, Reddyfast, Inc., rose to prominence in 2012 when it promised to deliver custom built kitchen/dining room extensions in customer backyards, which could be built on-site in a day. Longton intends to include in her report the following extracts from Reddyfast's financial statements shown in Exhibit 1.

Exhibit 1 - Reddyfast Financial Statements and Notes (Extracts, $ '000s)

	2012	*2013*	*2014*
Revenue	14,000	13,720	15,915
Cost of Goods Sold	(11,340)	(10,976)	(12,891)
Gross Profit	2,660	2,744	3,024
Accounts Receivable *(note 1)*	1,789	1,907	2,610

Note 1 - Accounts Receivable Securitization

In 2014, the company received $400,000 from the sale of accounts receivable. These balances are not shown in the accounts receivable figure in the balance sheet. An associated finance charge has been disclosed in operating profit for the year.

Longton has isolated these figures as she believes that analysis of the relationship between receivables and revenue should have revealed cause for concern over the period 2012-2014. She intends to restate the financial statements for accounts receivables sold, and then compute the trend in days of sales outstanding using end-of-year receivables.

Longton plans to make the following statements concerning inventory management trends that Coreblue should be on the lookout for:

> **Statement 1**
> A substantial and unexpected increase in sales in the final quarter may be a sign that a company is using bill-and-hold transactions to give a one-off boost to revenue and cash flows toward the end of a period.

> **Statement 2**
> Earnings are made up of a cash earnings component and an accrual earning component. The cash component of earnings is more persistent. A firm with a higher proportion of cash earnings will have a higher β in the following expression of earnings persistence:
>
> $Earnings_{t+1} = \alpha + \beta(Earnings_t) + \varepsilon$

The second company in question is Ervington Boddan, Inc. (EB), a provider of heating solutions for recreational vehicles across the United States. Three board members of EB have also served as board members for Reddyfast since its inception in 2009.

Longton is concerned that EB's growth is fueled largely by income from associates, and, as a result, Longton intends to prepare a report showing the core ROE without including the results on such investments. In order to illustrate the driving forces behind ROE, she intends to perform a classic DuPont analysis that excludes the impact of associates from the margin and turnover ratios. One of Longton's interns has prepared the extracts shown in Exhibit 2 to assist with the analysis.

Exhibit 2 - EB Financial Statements (Extracts, $ millions)

	2014	*2015*	*2016*
Revenue	**11,719**	**12,071**	**12,795**
Cost of Goods Sold	9,243	9,502	10,357
Research and Development	80	78	76

Research and Development	80	78	76
Depreciation and Amortization	831	839	864
Other Operating Expenses	590	625	675
Total Expenses	**10,744**	**11,045**	**11,973**
Operating Profit	**975**	**1,026**	**822**
Finance Costs	(178)	(183)	(194)
Finance Income	23	23	23
Income From Associates	56	63	94
Profit Before Tax	**876**	**929**	**745**
Tax	(157)	(159)	(160)
Profit After Tax	**719**	**770**	**585**
Non-Controlling Interest	(16)	(16)	(16)
Net Income Attributable to Shareholders of Parent	**703**	**754**	**568**
Balance Sheet			
Non-Current Assets			
PPE	8,120	8,193	8,203
Intangibles	982	980	992
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Other Non-Current Assets	1,013	1,102	1,712
Total Non-Current Assets	**11,848**	**12,165**	**12,921**
Total Current Assets	**3,245**	**3,345**	**3,354**
Total Assets	**15,093**	**15,510**	**16,275**
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Shareholders' Equity	**4,415**	**4,611**	**5,265**

The third company under review is Yopatta Solutions, Inc. The company provides marketing and advertising services to a variety of clients, promising to deliver a "one stop shop" solution for all client customer communication needs.

Due to the nature of its business, Yopatta (like its peers) has relatively few tangible assets on its balance sheet. However, on reviewing the notes to the balance sheet, Longton identifies that Yopatta has a significant operating lease commitment. Using end-of-year reported balance sheet data, Longton calculated Yopatta's debt-to-equity ratio to be 48%. She now intends to restate the ratio after capitalizing operating lease commitments using the information in Exhibit 3.

Exhibit 3 - Yopatta Leverage

Balance Sheet 31 Dec 2015 As Reported	
Non-Current Assets	7,892
Current Assets	6,422
Total Assets	14,314
Debt	2,367
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> *Notes:*
>
> **Operating Lease Commitments**
>
> Yopatta is committed to making the following payments under non-cancellable operating leases:

	$ millions
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Year ended 31 December 2017	148
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Years ending 31 December 2021-25	490

Longton assumes that all lease payments occur at the end of each year, and that the payments from 2021-25 are all equal. Yopatta recently went to the market and issued senior unsecured debt at a yield of 4%; Longton intends to apply this rate to capitalize the operating lease.

Longton believes that this recalculation is essential for all companies with operating leases as she believes that U.S. GAAP will very soon be updated to require the capitalization of all operating leases longer than one year. As a result, Longton will add the following comment on the impact on the income statement in her report:

> ***Potential Accounting Policy Change***
>
> *The requirement to capitalize operating leases will impact not only leverage ratios, but also coverage ratios based on the income statement. This lease capitalization will result in a decrease in operating profit, a decrease in interest expense, and a decrease in interest coverage ratios.*

.....

Yopatta's restated debt-to-equity ratio will be *closest* to:

A) 49%

B) 57%

C) 68%

Question #12 of 60

Question ID: 692280

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Notes:

Operating Lease Commitments

Yopatta is committed to making the following payments under non-cancellable operating leases:

	$ millions
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Longton assumes that all lease payments occur at the end of each year, and that the payments from 2021-25 are all equal. Yopatta recently went to the market and issued senior unsecured debt at a yield of 4%; Longton intends to apply this rate to capitalize the operating lease.

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Potential Accounting Policy Change

The requirement to capitalize operating leases will impact not only leverage ratios, but also coverage ratios based on the income statement. This lease capitalization will result in a decrease in operating profit, a decrease in interest expense, and a decrease in interest coverage ratios.

.....

Longton's comment on the potential accounting policy change is *best* described as:

A) correct.

B) incorrect regarding the decrease in operating profit.

C) incorrect regarding the decrease in interest coverage ratios.

Question #13 of 60

Question ID: 692281

Questions 13-18 relate to O'Connor Textiles, Part 1.

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

Following an acquisition of a major competitor in 1992, O'Connor went public in 1993 and paid its first dividend in 1999. Dividends are paid at the end of the year. After 2008, dividends are expected to grow for three years at 11%: $2.13 in 2009, $2.36 in 2010, and $2.63 in 2011. The average of the arithmetic and compound growth rates are given in Exhibit 1. Dividends are then expected to settle down to a long-term growth rate of 4%. O'Connor's current share price of $70 is expected to rise to $72.92 by the end of the year according to the consensus of analysts' forecasts.

O'Connor's annual dividend history is shown in Exhibit 1.

Exhibit 1: O'Connor Textiles Dividend History

Year	*Dividend ($)*	*% Change*	
1999	0.76		
2000	0.76	0.000	
2001	0.76	0.000	
2002	0.82	7.895	
2003	0.91	10.976	
2004	1.03	13.187	
2005	1.16	12.621	Arithmetic mean growth 11.1%
2006	1.34	15.517	Compound growth 10.9%
2007	1.52	13.433	

2008	1.92	26.316

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

The output from the regression appears in Exhibit 2.

Exhibit 2: Summary Output

Dependent Variable = $R_{i,t}$

Regression Statistics	
Multiple *R*-Squared	0.6275
R-Squared	0.3938
Adjusted *R*-Squared	0.3891
Standard Error	0.0572
Observations	132

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

Charles Wang, De Jong's colleague, is of the opinion that O'Connor's growth rate will be 11% but will decline linearly to a long-term growth rate of 4% over the next six years. Wang also feels that the required rate of return for O'Connor should be 9.50%.

.....

Based on information in Exhibit 2, the required return on equity (according to the CAPM) for O'Connor is *closest* to:

A) 4.2%.

B) 7.2%.

C) 9.2%.

Question #14 of 60

Question ID: 692283

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

Following an acquisition of a major competitor in 1992, O'Connor went public in 1993 and paid its first dividend in 1999. Dividends are paid at the end of the year. After 2008, dividends are expected to grow for three years at 11%: $2.13 in 2009, $2.36 in 2010, and $2.63 in 2011. The average of the arithmetic and compound growth rates are given in Exhibit 1. Dividends are then expected to settle down to a long-term growth rate of 4%. O'Connor's current share price of $70 is expected to rise to $72.92 by the end of the year according to the consensus of analysts' forecasts.

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2004	1.03	13.187	
2005	1.16	12.621	Arithmetic mean growth 11.1%
2006	1.34	15.517	Compound growth 10.9%
2007	1.52	13.433	
2008	1.92	26.316	

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

The output from the regression appears in Exhibit 2.

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Dependent Variable = $R_{i,t}$

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Standard Error	0.0572
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ANOVA

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Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

Charles Wang, De Jong's colleague, is of the opinion that O'Connor's growth rate will be 11% but will decline linearly to a long-term growth rate of 4% over the next six years. Wang also feels that the required rate of return for O'Connor should be 9.50%.

.....

For this question only, assume that O'Connor's cost of equity is 10%. The value of one share of O'Connor stock in early 2009 using the two-stage dividend discount model (DDM) is *closest* to:

A) $38.50.

B) $40.00.

C) $47.50.

Question #15 of 60

Question ID: 692284

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

Following an acquisition of a major competitor in 1992, O'Connor went public in 1993 and paid its first dividend in 1999. Dividends are paid at the end of the year. After

2008, dividends are expected to grow for three years at 11%: $2.13 in 2009, $2.36 in 2010, and $2.63 in 2011. The average of the arithmetic and compound growth rates are given in Exhibit 1. Dividends are then expected to settle down to a long-term growth rate of 4%. O'Connor's current share price of $70 is expected to rise to $72.92 by the end of the year according to the consensus of analysts' forecasts.

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2008	1.92	26.316	

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

The output from the regression appears in Exhibit 2.

Exhibit 2: Summary Output

Dependent Variable = $R_{i,t}$

Regression Statistics	
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R-Squared	0.3938
Adjusted *R*-Squared	0.3891
Standard Error	0.0572
Observations	132

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

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.....

For this question only, assume that De Jong's estimate of the value of O'Connor stock using a two-stage DDM is $75. Assuming the market has also applied a two-stage DDM, and the market's consensus estimate of dividend growth and required return are the same as De Jong's, the market's consensus estimate of the duration of the high-growth period is *most likely*:

A) less than three years.

B) equal to three years.

C) greater than three years.

Question #16 of 60

Question ID: 692282

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

Following an acquisition of a major competitor in 1992, O'Connor went public in 1993 and paid its first dividend in 1999. Dividends are paid at the end of the year. After 2008, dividends are expected to grow for three years at 11%: $2.13 in 2009, $2.36 in 2010, and $2.63 in 2011. The average of the arithmetic and compound growth rates are given in Exhibit 1. Dividends are then expected to settle down to a long-term growth rate of 4%. O'Connor's current share price of $70 is expected to rise to $72.92 by the end of the year according to the consensus of analysts' forecasts.

O'Connor's annual dividend history is shown in Exhibit 1.

Exhibit 1: O'Connor Textiles Dividend History

Year	*Dividend ($)*	*% Change*	
1999	0.76		
2000	0.76	0.000	
2001	0.76	0.000	
2002	0.82	7.895	
2003	0.91	10.976	
2004	1.03	13.187	
2005	1.16	12.621	Arithmetic mean growth 11.1%
2006	1.34	15.517	Compound growth 10.9%
2007	1.52	13.433	
2008	1.92	26.316	

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

The output from the regression appears in Exhibit 2.

Exhibit 2: Summary Output

Dependent Variable = $R_{i,t}$

Regression Statistics	
Multiple *R*-Squared	0.6275
R-Squared	0.3938
Adjusted *R*-Squared	0.3891
Standard Error	0.0572
Observations	132

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

Charles Wang, De Jong's colleague, is of the opinion that O'Connor's growth rate will be 11% but will decline linearly to a long-term growth rate of 4% over the next six years. Wang also feels that the required rate of return for O'Connor should be 9.50%.

.....

In what situation is it *most appropriate* for De Jong to employ a:

	Dividend discount model?	FCFE model?
A)	Non-control perspective	FCFE aligned with profitability
B)	Control perspective	FCFE aligned with profitability
C)	Non-control perspective	FCFE aligned with dividend policy

Question #17 of 60

Question ID: 692285

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

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2008	1.92	26.316	

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

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Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

Charles Wang, De Jong's colleague, is of the opinion that O'Connor's growth rate will be 11% but will decline linearly to a long-term growth rate of 4% over the next six years. Wang also feels that the required rate of return for O'Connor should be 9.50%.

.....

The value of O'Connor stock using Wang's assumptions is *closest* to:

A) $43.65

B) $48.75

C) $52.35

Question #18 of 60

Question ID: 692286

Emily De Jong, CFA, works for Charles & Williams Associates, a medium-sized investment firm operating in the northeastern United States. De Jong is responsible for producing financial reports to use as tools to attract new clients. It is now early in 2009, and De Jong is reviewing information for O'Connor Textiles and finalizing a report that will be used for an important presentation to a potential investor at the end of the week.

Following an acquisition of a major competitor in 1992, O'Connor went public in 1993 and paid its first dividend in 1999. Dividends are paid at the end of the year. After 2008, dividends are expected to grow for three years at 11%: $2.13 in 2009, $2.36 in 2010, and $2.63 in 2011. The average of the arithmetic and compound growth rates are given in Exhibit 1. Dividends are then expected to settle down to a long-term growth rate of 4%. O'Connor's current share price of $70 is expected to rise to $72.92 by the end of the year according to the consensus of analysts' forecasts.

O'Connor's annual dividend history is shown in Exhibit 1.

Exhibit 1: O'Connor Textiles Dividend History

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2007	1.52	13.433	
2008	1.92	26.316	

De Jong is also considering whether or not she should value O'Connor using a free cash flow model instead of the dividend discount model.

In addition, De Jong observes that the current return on 3-month T-bills is 3% and determines that the expected return on the market portfolio is 7%. She has gathered monthly data on company stock returns ($R_{i,t}$) and market returns ($R_{M,t}$) and has decided to run an ordinary least squares regression according to the model $R_{i,t} = \alpha_i + \beta_i R_{M,t} + \varepsilon_t$. De Jong uses the S&P 500 as the proxy for the market portfolio.

The output from the regression appears in Exhibit 2.

Exhibit 2: Summary Output

Dependent Variable = $R_{i,t}$

Regression Statistics

Multiple *R*-Squared	0.6275
R-Squared	0.3938
Adjusted *R*-Squared	0.3891
Standard Error	0.0572
Observations	132

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.2764	0.2764	8.4437	<0.0001
Residual	130	0.4256	0.0033		
Total	131	0.7020			

	Coefficients	*Adjusted Standard Error*	*t-Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.0062	0.0051	1.2067	0.2297	−0.0039	0.0163
$R_{M,t}$	1.0400	0.1136	9.1549	<0.0001	0.8190	1.2685

Charles Wang, De Jong's colleague, is of the opinion that O'Connor's growth rate will be 11% but will decline linearly to a long-term growth rate of 4% over the next six years. Wang also feels that the required rate of return for O'Connor should be 9.50%.

.....

For this question only, assume that the market price of O'Connor stock is $48.00 and the linearly declining high growth period is 5 years. The required rate of return implicit in the market price is *closest* to:

A) 8.86%

B) 9.22%

C) 10.81%

Question #19 of 60

Question ID: 692293

Questions 19-24 relate to O'Connor Textiles, Part 2.

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

However, De Jong decides to use residual income analysis instead. She provides the following justification for using the residual income model:

- The calculation of residual income depends primarily on readily available accounting data.
- The residual income model can be used even when cash flow is difficult to forecast.
- The residual income model does not depend on dividend payments or on positive free cash flows in the near future.
- The residual income model depends on the validity of the clean surplus relation.

She also considers the following assumptions about continuing residual income:

Assumption 1:	Residual income is positive and continues at the same level year after year.
Assumption 2:	ROE declines over time to the cost of equity.
Assumption 3:	Residual income declines to zero immediately.

De Jong gathers recent financial information data on O'Connor, as shown in Exhibit 1.

Exhibit 1: O'Connor Textiles, Inc. Summary Income Statement
(U.S. $ thousands, except per share data)

	2008	**2009**
	Actual	*Projection*

Sales	$509,447	$529,429
Cost of sales	398,100	405,068
Selling and administrative expenses	49,608	59,378
Depreciation and amortization	18,562	22,979
Total operating expenses	466,270	487,425
Earnings from operations	43,177	42,004
Interest expense	28,004	28,906
Earnings before income taxes	15,173	13,098
Provision for income taxes	5,138	4,453
Net earnings for the year	10,035	8,645
Earnings per share: basic	$0.59	$0.51
Fully diluted	$0.56	*

*Non-dilutive

De Jong has also determined that at the beginning of 2008, O'Connor had total capital of $324,000,000, of which $251,000,000 was debt and $73,000,000 was equity. The company's cost of debt before taxes is 7%, and the cost of equity capital is 8%. The company has a tax rate of approximately 34%. Weighted average cost of capital is 5.4%. Net operating profit after tax (before any adjustments) is $28,517,640.

De Jong is interested in obtaining the market's assessment of the implied growth rate in residual income and notes that the book value per share for O'Connor at the beginning of 2009 was $4.29, and the current market price is $70. She forecasts the return on equity (ROE) for 2009 to be 11.84%.

De Jong discusses her analyses with a colleague, who makes the following general statements:

Statement 1:	It is usually the case that value is recognized later in the residual income model than in the dividend discount model.
Statement 2:	When the present value of expected future residual income is negative, the justified P/B based on fundamentals is less than one.

.....

Is De Jong correct about the *likely* effects on NOPAT and EVA from increasing invested capital to take advantage of projects with positive net present values?

A) Yes in both cases.

B) Yes in one case, and no in the other.

C) No in both cases.

Question #20 of 60

Question ID: 692298

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

However, De Jong decides to use residual income analysis instead. She provides the following justification for using the residual income model:

- The calculation of residual income depends primarily on readily available accounting data.
- The residual income model can be used even when cash flow is difficult to forecast.
- The residual income model does not depend on dividend payments or on positive free cash flows in the near future.
- The residual income model depends on the validity of the clean surplus relation.

She also considers the following assumptions about continuing residual income:

Assumption 1:	Residual income is positive and continues at the same level year after year.
Assumption 2:	ROE declines over time to the cost of equity.
Assumption 3:	Residual income declines to zero immediately.

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.....

Are De Jong's justifications for using the residual income model correct?

A) Yes.

B) No, because the residual income model should be not be used when cash flows are difficult to forecast.

C) No, because the residual income model depends on positive free cash flows in the near future.

Question #21 of 60

Question ID: 692297

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

However, De Jong decides to use residual income analysis instead. She provides the following justification for using the residual income model:

- The calculation of residual income depends primarily on readily available accounting data.
- The residual income model can be used even when cash flow is difficult to forecast.
- The residual income model does not depend on dividend payments or on positive free cash flows in the near future.
- The residual income model depends on the validity of the clean surplus relation.

She also considers the following assumptions about continuing residual income:

Assumption 1:	Residual income is positive and continues at the same level year after year.
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De Jong gathers recent financial information data on O'Connor, as shown in Exhibit 1.

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De Jong has also determined that at the beginning of 2008, O'Connor had total capital of $324,000,000, of which $251,000,000 was debt and $73,000,000 was equity. The company's cost of debt before taxes is 7%, and the cost of equity capital is 8%. The company has a tax rate of approximately 34%. Weighted average cost of capital is 5.4%. Net operating profit after tax (before any adjustments) is $28,517,640.

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Statement 1:	It is usually the case that value is recognized later in the residual income model than in the dividend discount model.
Statement 2:	When the present value of expected future residual income is negative, the justified P/B based on fundamentals is less than one.

Which of De Jong's assumptions about continuing residual income will lead to the highest persistence factor?

A) Assumption 1.
B) Assumption 2.
C) Assumption 3.

Question #22 of 60

Question ID: 692294

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

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- The calculation of residual income depends primarily on readily available accounting data.

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.....

O'Connor's residual income and economic value added (EVA) for 2008 are *closest* to:

	Residual income	EVA
A)	$6.1 million	$11.0 million
B)	$4.2 million	$11.0 million
C)	$4.2 million	$2.6 million

Question #23 of 60 Question ID: 603206

Question #23 of 60 Question ID: 692296

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

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Earnings per share: basic	$0.59	$0.51
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De Jong has also determined that at the beginning of 2008, O'Connor had total capital of $324,000,000, of which $251,000,000 was debt and $73,000,000 was equity. The company's cost of debt before taxes is 7%, and the cost of equity capital is 8%. The company has a tax rate of approximately 34%. Weighted average cost of capital is 5.4%. Net operating profit after tax (before any adjustments) is $28,517,640.

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De Jong discusses her analyses with a colleague, who makes the following general statements:

Statement 1:	It is usually the case that value is recognized later in the residual income model than in the dividend discount model.
Statement 2:	When the present value of expected future residual income is negative, the justified P/B based on fundamentals is less than one.

.....

The implied residual income growth rate for 2009, based on the residual income model, is *closest* to:

A) 7.75%.

B) 8.16%.

C) 8.82%.

Question #24 of 60

Question ID: 692295

De Jong continues her analysis of O'Connor. She is concerned that along with a dividend discount model approach she would also like to get a measure of the contribution that the key managers, Melanie and Arthur O'Connor, have made to the company's apparent ongoing success.

She considers using NOPAT and EVA to assess management performance. She believes that increasing invested capital to take advantage of projects with positive net present values increases both NOPAT and EVA.

However, De Jong decides to use residual income analysis instead. She provides the following justification for using the residual income model:

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She also considers the following assumptions about continuing residual income:

Assumption 1:	Residual income is positive and continues at the same level year after year.
Assumption 2:	ROE declines over time to the cost of equity.
Assumption 3:	Residual income declines to zero immediately.

De Jong gathers recent financial information data on O'Connor, as shown in Exhibit 1.

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	Actual	*Projection*
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Earnings per share: basic	$0.59	$0.51
Fully diluted	$0.56	*

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De Jong has also determined that at the beginning of 2008, O'Connor had total capital of $324,000,000, of which $251,000,000 was debt and $73,000,000 was equity. The company's cost of debt before taxes is 7%, and the cost of equity capital is 8%. The company has a tax rate of approximately 34%. Weighted average cost of capital is 5.4%. Net operating profit after tax (before any adjustments) is $28,517,640.

De Jong is interested in obtaining the market's assessment of the implied growth rate in residual income and notes that the book value per share for O'Connor at the beginning of 2009 was $4.29, and the current market price is $70. She forecasts the return on equity (ROE) for 2009 to be 11.84%.

De Jong discusses her analyses with a colleague, who makes the following general statements:

Statement 1:	It is usually the case that value is recognized later in the residual income model than in the dividend discount model.
Statement 2:	When the present value of expected future residual income is negative, the justified P/B based on fundamentals is less than one.

Are the statements made by De Jong's colleague correct?

A) Both statements are correct.

B) Only Statement 1 is correct.

C) Only Statement 2 is correct.

Question #25 of 60

Question ID: 691463

Questions 25-30 relate to Susan Evermore.

The Wyroman International Pension Fund includes a $65 million fixed-income portfolio managed by Susan Evermore, CFA, of Brighton Investors. Evermore is in the process of constructing a binomial interest-rate tree that generates arbitrage-free values for on-the-run Treasury securities. She plans to use the tree to value more complex bonds with embedded options. She starts out by observing that the yield on a one-year Treasury security is 3.50%. She determines in her initial attempt to price the two-year Treasury security that the value derived from the model is higher than the Treasury security's current market price.

After several iterations Evermore determines that the interest rate tree that correctly values the one and two-year Treasury securities has a rate of 4.50% in the lower node at the end of the first year and a rate of 7.0% in the upper node at the end of the first year. She uses this tree to value a two-year, 6% annual coupon bond with a par value of $100 that is callable in one year at $99.50. She determines that an OAS of 50bps is appropriate for this bond.

Evermore also uses the same interest rate tree to price a 2-year 6% coupon bond that is putable in one year, and value the embedded put option. She concludes that if the yield volatility decreases unexpectedly, the value of the putable bond will increase and the value of the embedded put option will also increase, assuming all other inputs are unchanged. She also concludes that the computed OAS for the bond would decrease as the estimated level of yield volatility decreases.

Evermore also uses the interest rate tree to estimate the option-adjusted spreads of two additional callable corporate bonds, as shown in the following figure.

Issuer	*Option-Adjusted Spread*
AA-rated issuer	53 basis points
BB-rated issuer	−18 basis points

Evermore concludes, based on this information, that the AA-rated issue is undervalued, and the BB-rated issue is overvalued.

At a subsequent meeting with the trustees of the fund, Evermore is asked to explain what a binomial interest rate model is and how it was used to estimate effective duration and effective convexity. Evermore is uncertain of the exact methodology because the actual calculations were done by a junior analyst, but she tries to provide the trustees with a reasonably accurate step-by-step description of the process:

Step 1: Given the bond's current market price, the on-the-run Treasury yield curve, and an assumption about rate volatility, create a binomial interest rate tree.

Step 2: Add 100 basis points to each of the 1-year rates in the interest rate tree to derive a "modified" tree.

Step 3: Compute the price of the bond if yield increases by 100 basis points using this new tree.

Step 4: Repeat Steps 1 through 3 to determine the bond price that results from a 100 basis point decrease in rates.

Step 5: Use these two price estimates, along with the original market price, to calculate effective duration and effective convexity.

Lucas Davenport, a trustee and university finance professor, immediately speaks up to disagree with Evermore. He claims that a more accurate description of the process is as follows:

Step 1: Given the bond's current market price, the Treasury yield curve, and an assumption about rate volatility, create a binomial interest rate tree and calculate the bond's option-adjusted spread (OAS) using the model.

Step 2: Impose a parallel upward shift in the on-the-run Treasury yield curve of 100 basis points.

Step 3: Build a new binomial interest rate tree using the new Treasury yield curve and the original rate volatility assumption.

Step 4: Add the OAS from Step 1 to each of the 1-year rates on the tree to

derive a "modified" tree.

Step 5: Compute the price of the bond using this new tree.

Step 6: Repeat Steps 1 through 5 to determine the bond price that results from a 100 basis point decrease in rates.

Step 7: Use these two price estimates, along with the original market price, to calculate effective duration and effective convexity.

At the meeting with the trustees, Evermore also presents the results of her analysis of the effect of changing market volatilities on a 1-year convertible bond issued by Highfour Corporation. Each bond is convertible into 25 shares of Highfour common stock. The bond is also callable at 110 at any time prior to maturity. She concludes that the value of the bond will decrease if either (1) the volatility of returns on Highfour common stock decreases or (2) yield volatility decreases.

Davenport immediately disagrees with her by saying "changes in the volatility of common stock returns will have no effect on the value of the convertible bond, and a decrease in yield volatility will result in an increase in the value of the bond."

.....

The value of the 2-year 6% callable bond today using the interest rate tree is *closest* to:

A) $95.24.

B) $101.01.

C) $102.21.

Question #26 of 60

Question ID: 691462

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After several iterations Evermore determines that the interest rate tree that correctly values the one and two-year Treasury securities has a rate of 4.50% in the lower node at the end of the first year and a rate of 7.0% in the upper node at the end of the first year. She uses this tree to value a two-year, 6% annual coupon bond with a par value of $100 that is callable in one year at $99.50. She determines that an OAS of 50bps is appropriate for this bond.

Evermore also uses the same interest rate tree to price a 2-year 6% coupon bond that is putable in one year, and value the embedded put option. She concludes that if the yield volatility decreases unexpectedly, the value of the putable bond will increase and the value of the embedded put option will also increase, assuming all other inputs are unchanged. She also concludes that the computed OAS for the bond would decrease as the estimated level of yield volatility decreases.

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Step 2: Add 100 basis points to each of the 1-year rates in the interest rate tree to derive a "modified" tree.

Step 3: Compute the price of the bond if yield increases by 100 basis points using this new tree.

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Step 3: Build a new binomial interest rate tree using the new Treasury yield curve and the original rate volatility assumption.

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Davenport immediately disagrees with her by saying "changes in the volatility of common stock returns will have no effect on the value of the convertible bond, and a decrease in yield volatility will result in an increase in the value of the bond."

.....

Is Evermore correct in her analysis of the effect of a change in yield volatility?

A) Incorrect on the puttable bond only.

B) Incorrect on the put option only.

C) Incorrect on both the bond and the option.

Question #27 of 60

Question ID: 691465

The Wyroman International Pension Fund includes a $65 million fixed-income portfolio managed by Susan Evermore, CFA, of Brighton Investors. Evermore is in the process of constructing a binomial interest-rate tree that generates arbitrage-free values for on-the-run Treasury securities. She plans to use the tree to value more complex bonds with embedded options. She starts out by observing that the yield on a one-year Treasury security is 3.50%. She determines in her initial attempt to price the two-year Treasury security that the value derived from the model is higher than the Treasury security's current market price.

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Step 3: Compute the price of the bond if yield increases by 100 basis points using this new tree.

Step 4: Repeat Steps 1 through 3 to determine the bond price that results from a 100 basis point decrease in rates.

Step 5: Use these two price estimates, along with the original market price, to calculate effective duration and effective convexity.

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Davenport immediately disagrees with her by saying "changes in the volatility of common stock returns will have no effect on the value of the convertible bond, and a decrease in yield volatility will result in an increase in the value of the bond."

.....

Is Evermore correct about the effect of a decrease in estimated level of yield volatility on the computed OAS?

A) Yes.

B) No, OAS depends only on credit and liquidity risk and hence would be unchanged.

C) No, the computed OAS would increase.

Question #28 of 60

Question ID: 691464

The Wyroman International Pension Fund includes a $65 million fixed-income portfolio managed by Susan Evermore, CFA, of Brighton Investors. Evermore is in the process of constructing a binomial interest-rate tree that generates arbitrage-free values for on-the-run Treasury securities. She plans to use the tree to value more complex bonds with embedded options. She starts out by observing that the yield on a one-year Treasury security is 3.50%. She determines in her initial attempt to price the two-year Treasury security that the value derived from the model is higher than the Treasury security's current market price.

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Evermore also uses the same interest rate tree to price a 2-year 6% coupon bond that is putable in one year, and value the embedded put option. She concludes that if the yield volatility decreases unexpectedly, the value of the putable bond will increase and the value of the embedded put option will also increase, assuming all other inputs are unchanged. She also concludes that the computed OAS for the bond would decrease as the estimated level of yield volatility decreases.

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Step 1: Given the bond's current market price, the on-the-run Treasury yield curve, and an assumption about rate volatility, create a binomial interest rate tree.

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Lucas Davenport, a trustee and university finance professor, immediately speaks up to disagree with Evermore. He claims that a more accurate description of the process is as follows:

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Step 3: Build a new binomial interest rate tree using the new Treasury yield curve and the original rate volatility assumption.

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.....

Is Evermore correct in her analysis of the relative valuation of the bonds?

A) Correct on both issues.

B) Correct on the AA issue only.

C) Correct on the BB issue only.

Question #29 of 60

Question ID: 691466

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Davenport immediately disagrees with her by saying "changes in the volatility of common stock returns will have no effect on the value of the convertible bond, and a decrease in yield volatility will result in an increase in the value of the bond."

.....

Which of the following statements regarding the methodologies for estimating effective duration and convexity is *most accurate*?

A) Davenport's description is a more accurate depiction of the appropriate methodology than Evermore's.

B) The two methodologies will result in the same effective duration and convexity estimates only if the same rate volatility assumption is used in each.

C) The two methodologies will result in the same effective duration and convexity estimates only if the same rate volatility assumption is used in each and the bond's OAS is equal to zero.

Question #30 of 60

Question ID: 691468

The Wyroman International Pension Fund includes a $65 million fixed-income portfolio managed by Susan Evermore, CFA, of Brighton Investors. Evermore is in the process of constructing a binomial interest-rate tree that generates arbitrage-free values for on-the-run Treasury securities. She plans to use the tree to value more complex bonds with embedded options. She starts out by observing that the yield on a one-year Treasury security is 3.50%. She determines in her initial attempt to price the two-year Treasury security that the value derived from the model is higher than the Treasury security's current market price.

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At the meeting with the trustees, Evermore also presents the results of her analysis of the effect of changing market volatilities on a 1-year convertible bond issued by Highfour Corporation. Each bond is convertible into 25 shares of Highfour common stock. The bond is also callable at 110 at any time prior to maturity. She concludes that the value of the bond will decrease if either (1) the volatility of returns on Highfour common stock decreases or (2) yield volatility decreases.

Davenport immediately disagrees with her by saying "changes in the volatility of common stock returns will have no effect on the value of the convertible bond, and a decrease in yield volatility will result in an increase in the value of the bond."

.....

For this question, analyze each effect separately. Is Davenport correct in disagreeing with Evermore's conclusions regarding the effect on the value of the convertible bond resulting from a change in volatility?

A) Davenport is correct on both conclusions.

B) Davenport is correct on stock return volatility only.

C) Davenport is correct on yield volatility only.

Question #31 of 60

Question ID: 691459

Questions 31-36 relate to Natalia Berg.

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	*Portfolio 1*	*Portfolio 2*	*Portfolio 3*
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two statements about the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at more maturities than government bond markets have.

Statement 2: Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also obtains information on several bonds issued by Salant Enterprises as shown in Exhibit 2.

Exhibit 2: Selected Information on Salant Enterprises Bonds

Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year

Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

If the spot-rate curve experiences a parallel downward shift of 50 basis points:

A) all three portfolios will experience the same price performance.

B) Portfolio 1 will experience the best price performance.

C) Portfolio 3 will experience the best price performance.

Question #32 of 60

Question ID: 692299

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

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Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year
Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

If the 5- and 10-year key rates increase by 20 basis points, but the 2- and 20-year key rates remain unchanged:

A) all three portfolios will experience the same price performance.

B) Portfolio 1 will experience the best price performance.

C) Portfolio 2 will experience the best price performance.

Question #33 of 60

Question ID: 691457

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	*Portfolio 1*	*Portfolio 2*	*Portfolio 3*
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two statements about the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at more maturities than government bond markets have.

Statement 2: Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also obtains information on several bonds issued by Salant Enterprises as shown in Exhibit 2.

Exhibit 2: Selected Information on Salant Enterprises Bonds

Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year
Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Are the two observations Berg records after the fixed income conference accurate?

A) Both statements are accurate.

B) Only Statement 1 is accurate.

C) Only Statement 2 is accurate.

Question #34 of 60

Question ID: 691461

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	*Portfolio 1*	*Portfolio 2*	*Portfolio 3*
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two statements about the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at more maturities than government bond markets have.

Statement 2: Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also obtains information on several bonds issued by Salant Enterprises as shown in Exhibit 2.

Exhibit 2: Selected Information on Salant Enterprises Bonds

Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year
Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Based on the information in Exhibit 2, the value of Bond C is *most likely*:

A) $99.50.

B) between $99.50 and $100.69.

C) $100.69.

Question #35 of 60

Question ID: 692300

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	*Portfolio 1*	*Portfolio 2*	*Portfolio 3*

Maturity			
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two statements about the swap rate curve:

Statement 1: The swap rate curve typically has yield quotes at more maturities than government bond markets have.

Statement 2: Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also obtains information on several bonds issued by Salant Enterprises as shown in Exhibit 2.

Exhibit 2: Selected Information on Salant Enterprises Bonds

Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year
Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Is Berg correct about the specified change in yield needed to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model?

A) No, because the specified change in yield must be larger than the option-adjusted spread (OAS).

B) No, because the specified change in yield must be smaller than the OAS.

C) No, because the specified change in yield can be larger than, smaller than, or equal to the OAS.

Question #36 of 60

Question ID: 691458

Natalia Berg, CFA, has estimated the key rate durations for several maturities in three of her equally-weighted bond portfolios, as shown in Exhibit 1.

Exhibit 1: Key Rate Durations for Three Fixed-Income Portfolios

Key Rate Maturity	*Portfolio 1*	*Portfolio 2*	*Portfolio 3*
2-year	2.45	0.35	1.26
5-year	0.20	0.40	1.27
10-year	0.15	4.00	1.23
20-year	2.20	0.25	1.24
Total	5.00	5.00	5.00

At a fixed-income conference in London, Berg hears a presentation by a university professor on the increasing use of the swap rate curve as a benchmark instead of the government bond yield curve. When Berg returns from the conference, she realizes she has left her notes from the presentation on the airplane. However, she is very interested in learning more about whether she should consider using the swap rate curve in her work.

As she tries to reconstruct what was said at the conference, she writes down two statements about the swap rate curve:

Statement 1:	The swap rate curve typically has yield quotes at more maturities than government bond markets have.
Statement 2:	Retail banks are more likely to use the government spot curve as a benchmark as they have minimal exposure to swap markets.

Berg also obtains information on several bonds issued by Salant Enterprises as shown in Exhibit 2.

Exhibit 2: Selected Information on Salant Enterprises Bonds

Label	*A*	*B*	*C*
Bond type	Callable	Putable	Extendible
Option type	European	European	
Exercise date	2 years	3 years	
Maturity	3 years	4 years	3 years
Extension period	-	-	1 year
Coupon Rate	5%	5%	5%
Value	$99.50	$100.69	

Berg determines that to obtain an accurate estimate of the effective duration and effective convexity of a callable bond using a binomial model, the specified change in yield (i.e., Δy) must be equal to the OAS.

Berg also observes that the current Treasury bond yield curve is upward sloping. Based on this observation, Berg forecasts that short-term interest rates will increase.

.....

Is Berg's short-term interest rate forecast consistent with the pure expectations theory and the liquidity premium theory?

A) Consistent with both theories.

B) Consistent with the pure expectations theory only.

C) Consistent with the liquidity premium theory only.

Question #37 of 60

Question ID: 691477

Questions 37-42 relate to Jonathan Adams.

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

> 30-day: 3.12% 60-day: 3.32% 90-day: 3.52%
> 120-day: 3.72% 150-day: 3.92% 180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1+0.0352\left(\frac{90}{360}\right)}{1+0.0332\left(\frac{60}{360}\right)}-1\right]\left(\frac{360}{90}\right)$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

The no-arbitrage price for the forward contract on the Treasury bond is *closest* to:

A) 98.54.

B) 98.57.

C) 98.62.

Question #38 of 60

Question ID: 691472

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

> 30-day: 3.12% 60-day: 3.32% 90-day: 3.52%
> 120-day: 3.72% 150-day: 3.92% 180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1+0.0352\left(\frac{90}{360}\right)}{1+0.0332\left(\frac{60}{360}\right)}-1\right]\left(\frac{360}{90}\right)$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

If the Treasury bond price decreases to 98.11 (including accrued interest) over the next 60 days, the value of a short position in the 270-day forward contract on a $10 million bond is *closest* to:

A) $76,500.

B) $76,800.

C) $78,000.

Question #39 of 60

Question ID: 691478

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

> 30-day: 3.12% 60-day: 3.32% 90-day: 3.52%
> 120-day: 3.72% 150-day: 3.92% 180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1+0.0352\left(\frac{90}{360}\right)}{1+0.0332\left(\frac{60}{360}\right)}-1\right]\left(\frac{360}{90}\right)$$

$$\left[1 + 0.0352\left(\frac{90}{360}\right)\right]$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

How many of the following terms are correct in the calculation of the FRA price: 0.0352, 0.0332, 60/360, 90/360?

A) Two.

B) Three.

C) Four.

Question #40 of 60

Question ID: 691473

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

30-day: 3.12%	60-day: 3.32%	90-day: 3.52%
120-day: 3.72%	150-day: 3.92%	180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1 + 0.0352\left(\frac{90}{360}\right)}{1 + 0.0332\left(\frac{60}{360}\right)} - 1\right]\left(\frac{360}{90}\right)$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

After 30 days, Adams wants to value a $10 million short position in the 2× 5 FRA. The 90-day forward rate in 30 days is now 4.14%, and the original price of the FRA was 4.30%. 120-day LIBOR has changed to 3.92%. The current value of the $10 million FRA to the short position under this scenario is *closest* to:

A) $15,794.

B) $3,948.

C) -$15,794.

Question #41 of 60

Question ID: 691474

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

30-day: 3.12%	60-day: 3.32%	90-day: 3.52%
120-day: 3.72%	150-day: 3.92%	180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1 + 0.0352\left(\frac{90}{360}\right)}{1 + 0.0332\left(\frac{60}{360}\right)} - 1\right]\left(\frac{360}{90}\right)$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

The no-arbitrage price for a 1-year forward contract on euros is *closest* to:

A) $1.1401.

B) $1.1740.

C) $1.1969.

Question #42 of 60

Question ID: 691475

Jonathan Adams, CFA, is doing some scenario analysis on forward contracts. The process involves pricing the forward contracts and then estimating their values based on likely scenarios provided by the firm's forecasting and strategy departments. The forward contracts with which Adams is most concerned are those on fixed income securities, interest rates, and currencies.

The first contract he needs to price is a 270-day forward on a $100 par Treasury bond with ten years remaining to maturity. The bond has a 5% coupon rate, has just made a coupon payment, and will make its next two coupon payments in 182 days and in 365 days. It is currently selling for 98.25. The risk-free rate is 4%. Adams is also analyzing forward rate agreements (FRAs).

The LIBOR spot curve is as follows:

30-day: 3.12%	60-day: 3.32%	90-day: 3.52%
120-day: 3.72%	150-day: 3.92%	180-day: 4.12%

Adams determines the price of a 2× 5 FRA from the spot yield curve using the following calculation:

$$\left[\frac{1 + 0.0352\left(\frac{90}{360}\right)}{1 + 0.0332\left(\frac{60}{360}\right)} - 1\right]\left(\frac{360}{90}\right)$$

Finally, Adams wants to price a currency forward on euros and Swiss francs. The euro spot rate is $1.1854 and the Swiss franc spot rate is $1.0210. The dollar risk-free rate is 3%, the euro risk-free rate is 4%, and the Swiss risk- free rate is 2%.

.....

If the Swiss franc is trading at a 1-year forward premium of $0.0301, the *most appropriate* arbitrage transaction would entail:

A) borrowing the Swiss franc.

B) lending the Swiss franc.

C) buying the Swiss franc in the forward market.

Question #43 of 60

Question ID: 691479

Questions 43-48 relate to GD Barton, Inc.

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

Following an internal investigation, Miguel Hernandez, CFA, has been assigned to review and value several contracts that were flagged during the audit.

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Details of three of the contracts, confirmed as being unauthorized (i.e., not used for hedging), have been summarized in an email to Hernandez. Extracts of this email are shown in Exhibit 1.

Exhibit 1: Unauthorized Contracts

Contract 1 - Interest Rate Swap	
Term:	2 years
Fixed rate:	3.50%
Settlement:	semi-annual (30/360)
Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap	
Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement	
Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 × 9 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

"...without authorization, the employee sold $350 million notional of protection on the iTraxx Main[1] index, a position that remains open. GD has no exposure to debt instruments issued by any of the constituents of the index, and there appear to be no other transactions in any index CDS. There were, however, two other transactions in single-name CDS. On behalf of GD, the employee purchased $2.5 million of notional exposure on a single-name CDS protection on POPRT corporation debt and $3.5 million of notional exposure on TRTRS corporation debt.

POPRT is a constituent of the iTraxx Main index, but TRTRS is not. Since the single-name positions were opened, the credit spread on both POPRT and TRTRS has increased by over 250 basis points."

1 The iTraxx Main is an equally weighted CDS index consisting of 125 investment-grade entities.

Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

The value to GD of contract 1, as described in Exhibit 1, is *closest* to:

A) -$8,400,000

A) [illegible]

B) -$2,990,000.

C) -$765,000.

Question #44 of 60

Question ID: 691480

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

Following an internal investigation, Miguel Hernandez, CFA, has been assigned to review and value several contracts that were flagged during the audit.

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Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap	
Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement	
Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 × 9 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

"...without authorization, the employee sold $350 million notional of protection on the iTraxx Main[1] index, a position that remains open. GD has no exposure to debt instruments issued by any of the constituents of the index, and there appear to be no other transactions in any index CDS. There were, however, two other transactions in single-name CDS. On behalf of GD, the employee purchased $2.5 million of notional exposure on a single-name CDS protection on

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1 The iTraxx Main is an equally weighted CDS index consisting of 125 investment-grade entities.

Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

The value to GD of contract 2, as described in Exhibit 1, is *closest* to:

A) $2,510,000.

B) -$2,510,000.

C) -$6,500,000.

Question #45 of 60

Question ID: 691476

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

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Details of three of the contracts, confirmed as being unauthorized (i.e., not used for hedging), have been summarized in an email to Hernandez. Extracts of this email are shown in Exhibit 1.

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Settlement:	semi-annual (30/360)
Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap	
Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement	
Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 x 9 FRA)

Contract:	90-day forward rate on 180-day LIBOR (i.e., 90 × 180 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

"...without authorization, the employee sold $350 million notional of protection on the iTraxx Main[1] index, a position that remains open. GD has no exposure to debt instruments issued by any of the constituents of the index, and there appear to be no other transactions in any index CDS. There were, however, two other transactions in single-name CDS. On behalf of GD, the employee purchased $2.5 million of notional exposure on a single-name CDS protection on POPRT corporation debt and $3.5 million of notional exposure on TRTRS corporation debt.

POPRT is a constituent of the iTraxx Main index, but TRTRS is not. Since the single-name positions were opened, the credit spread on both POPRT and TRTRS has increased by over 250 basis points."

1 The iTraxx Main is an equally weighted CDS index consisting of 125 investment-grade entities.

Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

Which of the following current LIBOR rates would Hernandez *most likely* require in order to value contract 3?

A) 90-day LIBOR and 180-day LIBOR.

B) 40-day LIBOR and 130-day LIBOR.

C) 40-day LIBOR and 220-day LIBOR.

Question #46 of 60

Question ID: 691470

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

Following an internal investigation, Miguel Hernandez, CFA, has been assigned to review and value several contracts that were flagged during the audit.

Details of three of the contracts, confirmed as being unauthorized (i.e., not used for hedging), have been summarized in an email to Hernandez. Extracts of this email are shown in Exhibit 1.

Exhibit 1: Unauthorized Contracts

Contract 1 - Interest Rate Swap

Term:	2 years
Fixed rate:	3.50%
Settlement:	semi-annual (30/360)
Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap

Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement

Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 × 9 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

"...without authorization, the employee sold $350 million notional of protection on the iTraxx Main[1] index, a position that remains open. GD has no exposure to debt instruments issued by any of the constituents of the index, and there appear to be no other transactions in any index CDS. There were, however, two other transactions in single-name CDS. On behalf of GD, the employee purchased $2.5 million of notional exposure on a single-name CDS protection on POPRT corporation debt and $3.5 million of notional exposure on TRTRS corporation debt.

POPRT is a constituent of the iTraxx Main index, but TRTRS is not. Since the single-name positions were opened, the credit spread on both POPRT and TRTRS has increased by over 250 basis points."

1 The iTraxx Main is an equally weighted CDS index consisting of 125 investment-grade entities.

Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

As a result of the transactions described in Exhibit 2, GD's current net notional exposure to POPRT debt is *closest* to:

A) $3.5 million.

B) $0.3 million.

C) zero.

Question #47 of 60

Question ID: 691469

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

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Fixed rate:	3.50%
Settlement:	semi-annual (30/360)
Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap	
Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement	
Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 × 9 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

"...without authorization, the employee sold $350 million notional of protection on the iTraxx Main[1] index, a position that remains open. GD has no exposure to debt instruments issued by any of the constituents of the index, and there appear to be no other transactions in any index CDS. There were, however, two other transactions in single-name CDS. On behalf of GD, the employee purchased $2.5 million of notional exposure on a single-name CDS protection on POPRT corporation debt and $3.5 million of notional exposure on TRTRS corporation debt.

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1 The iTraxx Main is an equally weighted CDS index consisting of 125 investment-grade entities.

Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

If GD were to enter into an offsetting contract to hedge its exposure to TRTRS under the CDS described in Exhibit 2, this would *most likely* result in:

A) a loss on the CDS position.

B) a gain on the CDS position.

C) no gain or loss on the CDS position.

Question #48 of 60

Question ID: 691471

GD Barton, Inc., (GD) is a large multinational company headquartered in the U.S. Through a series of subsidiaries around the world, GD operates in multiple sectors including retail, engineering, health care, and reinsurance. The company has a large treasury and risk management arm based in the U.K., and all responsibility for cash and risk management is centered in this London office.

Recently, a major breach of controls was discovered in the office; a junior employee had bypassed internal controls and opened large positions in several derivative contracts. The employee in question was only authorized to use such contracts for hedging purposes, but the company fears that it may have exposure in excess of $100 million on unhedged positions opened by the employee.

Following an internal investigation, Miguel Hernandez, CFA, has been assigned to review and value several contracts that were flagged during the audit.

Details of three of the contracts, confirmed as being unauthorized (i.e., not used for hedging), have been summarized in an email to Hernandez. Extracts of this email are shown in Exhibit 1.

Exhibit 1: Unauthorized Contracts

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Fixed rate:	3.50%
Settlement:	semi-annual (30/360)
Opened:	180 days ago
Notional:	$150 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{180}$ 2.90%, $LIBOR_{360}$ 3.00%, $LIBOR_{540}$ 3.20%

Contract 2 - Equity Swap	
Term:	1 year
Fixed rate:	3.70%
Equity index at:	
last settlement:	1926.64
Settlement:	quarterly (30/360)
Opened:	120 days ago
Notional:	$250 million
Position:	Fixed-rate payer
Current term structure:	$LIBOR_{60}$ 2.70%, $LIBOR_{150}$ 2.85%, $LIBOR_{240}$ 2.95%
Current equity index:	1892.23

Contract 3 - Forward Rate Agreement	
Contract:	90-day forward rate on 180-day LIBOR (i.e., 3 × 9 FRA)
Price:	3.8%
Opened:	50 days ago
Notional:	$125 million
Current term structure:	**NOTE:** Which LIBOR rates do you require here?

In addition to the confirmed breaches in Exhibit 1, the investigation also discovered a number of transactions related to credit default swaps (CDS). Hernandez has received an email from a member of the investigative team asking for his advice on GD's exposure as a result of these transactions. An extract from that email is shown in Exhibit 2.

Exhibit 2: Credit Default Swaps

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Hernandez thinks the TRTRS transaction may actually be a legitimate contract undertaken by another employee of the firm, Dan Eagen. Hernandez recently spoke informally with Eagen, who stated that he believes that "TRTRS is currently preparing to undergo a leveraged buy-out at a significant premium to current market value." Eagen's intention was to make a gain by taking a position in the CDS and TRTRS stock.

.....

Eagen is *most likely* to take advantage of his prediction for TRTRS by:

A) purchasing CDS protection and selling the underlying stock.

B) selling CDS protection and buying the underlying stock.

C) buying CDS protection and buying the underlying stock.

Question #49 of 60

Question ID: 691481

Questions 49-54 relate to Jeff Markgraf, CFA.

Jeff Markgraf, CFA, is the managing director at Alpha Alternatives LLP. Markgraf has a successful track record of investing in real estate for his institutional clients. Markgraf is seeking to diversify his scope and is looking into investing in commodities and in private equity.

Markgraf reaches out to his college friend, Bill Small, who manages a private equity fund specializing in leveraged buyouts. Markgraf asks Small about ways in which private equity funds add value to their portfolio investments.

Markgraf concludes that futures contracts offer the best mechanism for him to gain exposure to the commodities market. He seeks to develop further understanding of the components of total return of a portfolio invested in commodity futures.

Markgraf observes that cattle futures prices are greater than the spot prices while the corn futures prices are less than the spot prices. Markgraf also read that futures prices may be influenced by weather.

Markgraf wants some exposure to precious metals and expects to use silver futures contracts to accomplish this. Markgraf will roll over maturing contracts to the next shortest available contract. Markgraf believes that silver will help diversify his overall portfolio, especially since silver futures prices are less than silver spot prices.

.....

Which of the following would be *least* appropriate as a part of Small's response to Markgraf's question?

A) Optimizing financial leverage.

B) Creating operational improvement.

C) Incentivizing the general partner.

Question #50 of 60

Question ID: 691482

Jeff Markgraf, CFA, is the managing director at Alpha Alternatives LLP. Markgraf has a successful track record of investing in real estate for his institutional clients. Markgraf is seeking to diversify his scope and is looking into investing in commodities and in private equity.

Markgraf reaches out to his college friend, Bill Small, who manages a private equity fund specializing in leveraged buyouts. Markgraf asks Small about ways in which private equity funds add value to their portfolio investments.

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Markgraf wants some exposure to precious metals and expects to use silver futures contracts to accomplish this. Markgraf will roll over maturing contracts to the next

shortest available contract. Markgraf believes that silver will help diversify his overall portfolio, especially since silver futures prices are less than silver spot prices.

.....

Relative to seasonality in the demand for natural gas, seasonality in demand for oil is *most likely* to be:

A) about the same.

B) greater.

C) lower.

Question #51 of 60

Question ID: 691483

Jeff Markgraf, CFA, is the managing director at Alpha Alternatives LLP. Markgraf has a successful track record of investing in real estate for his institutional clients. Markgraf is seeking to diversify his scope and is looking into investing in commodities and in private equity.

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.....

Early frost in some parts of the country has resulted in damage to corn crops and a temporary shortage in the supply of corn. Under the theory of storage, relative to the spot prices, futures prices are *most likely* to be:

A) the same.

B) higher.

C) lower.

Question #52 of 60

Question ID: 691485

Jeff Markgraf, CFA, is the managing director at Alpha Alternatives LLP. Markgraf has a successful track record of investing in real estate for his institutional clients. Markgraf is seeking to diversify his scope and is looking into investing in commodities and in private equity.

Markgraf reaches out to his college friend, Bill Small, who manages a private equity fund specializing in leveraged buyouts. Markgraf asks Small about ways in which private equity funds add value to their portfolio investments.

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Markgraf wants some exposure to precious metals and expects to use silver futures contracts to accomplish this. Markgraf will roll over maturing contracts to the next shortest available contract. Markgraf believes that silver will help diversify his overall portfolio, especially since silver futures prices are less than silver spot prices.

.....

When considering total return of commodities futures portfolios, the rebalancing effect is *most likely* to be positive and significant under which of the following conditions?

A) Commodity spot prices are flat over the long term but volatile over the short term.

B) Convenience yield is low.

C) Storage costs are high.

Question #53 of 60

Question ID: 691484

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Markgraf reaches out to his college friend, Bill Small, who manages a private equity fund specializing in leveraged buyouts. Markgraf asks Small about ways in which private equity funds add value to their portfolio investments.

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Markgraf wants some exposure to precious metals and expects to use silver futures contracts to accomplish this. Markgraf will roll over maturing contracts to the next shortest available contract. Markgraf believes that silver will help diversify his overall portfolio, especially since silver futures prices are less than silver spot prices.

.....

Which theory is *least likely* to explain the pricing relationship in the cattle futures market?

A) The insurance perspective.

B) The hedging pressure hypothesis.

C) The theory of storage.

Question #54 of 60

Question ID: 691486

Jeff Markgraf, CFA, is the managing director at Alpha Alternatives LLP. Markgraf has a successful track record of investing in real estate for his institutional clients. Markgraf is seeking to diversify his scope and is looking into investing in commodities and in private equity.

Markgraf reaches out to his college friend, Bill Small, who manages a private equity fund specializing in leveraged buyouts. Markgraf asks Small about ways in which private equity funds add value to their portfolio investments.

Markgraf concludes that futures contracts offer the best mechanism for him to gain exposure to the commodities market. He seeks to develop further understanding of the components of total return of a portfolio invested in commodity futures.

Markgraf observes that cattle futures prices are greater than the spot prices while the corn futures prices are less than the spot prices. Markgraf also read that futures prices may be influenced by weather.

Markgraf wants some exposure to precious metals and expects to use silver futures contracts to accomplish this. Markgraf will roll over maturing contracts to the next shortest available contract. Markgraf believes that silver will help diversify his overall portfolio, especially since silver futures prices are less than silver spot prices.

.....

Markgraf's position in silver futures contracts is *most likely* to produce a roll return that is:

A) zero.

B) negative.

C) positive.

Question #55 of 60

Question ID: 691487

Questions 55-60 relate to Terry Holt and Bill McGuire.

Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

Exhibit 1: Magna Alpha Fund

Asset Class (i)	*Portfolio Return* $E(R_{Pi})$	*Benchmark Return* $E(R_{Bi})$	*Active Weight*

Equities	13%	12%	10%
Bonds	7%	5%	-11%
Cash	3%	3%	1%

Bill McGuire, Holt's supervisor, makes the following statements:

1. The optimal risky portfolio for any investor is the one with the highest Sharpe ratio irrespective of the risk tolerance of the client.
2. The Sharpe ratio would be the same as the information ratio for a market-neutral long-short equity fund that has the risk-free asset as the portfolio's benchmark.

Holt then obtains data on three active funds specializing in commodities investing. Exhibit 2 presents data on these funds.

Exhibit 2: Fund Data

Fund	*Prime*	*Redux*	*Optimus*
Expected active return	2.40%	1.25%	1.28%
Active risk	6%	5%	4%

McGuire recommends that Holt investigate two other funds, run by active managers A and B, as well. Exhibit 3 shows the relevant information.

Exhibit 3: Active Managers A and B

Manager A: Invests in stocks and makes bets annually. Has an information coefficient of 0.20 and transfer coefficient of 0.4.
Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

.....

Using the information in Exhibit 1, the expected active return from asset allocation for Magna Alpha fund is *closest* to:

A) 0.68%.

B) 1.25%.

C) 1.93%.

Question #56 of 60

Question ID: 691488

Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

Exhibit 1: Magna Alpha Fund

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Exhibit 2: Fund Data

Fund	*Prime*	*Redux*	*Optimus*

Expected active return	2.40%	1.25%	1.28%
Active risk	6%	5%	4%

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Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

.....

Regarding McGuire's statements:

A) both statements are correct.

B) only one statement is correct.

C) neither statement is correct.

Question #57 of 60

Question ID: 691490

Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

Exhibit 1: Magna Alpha Fund

Asset Class (i)	*Portfolio Return* $E(R_{Pi})$	*Benchmark Return* $E(R_{Bi})$	*Active Weight*
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Cash	3%	3%	1%

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Holt then obtains data on three active funds specializing in commodities investing. Exhibit 2 presents data on these funds.

Exhibit 2: Fund Data

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McGuire recommends that Holt investigate two other funds, run by active managers A and B, as well. Exhibit 3 shows the relevant information.

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Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

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Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

.....

Which component of the fundamental law of active management captures the relationship between risk-adjusted active weights and risk-adjusted forecasted returns?

A) Transfer coefficient.

B) Information coefficient.

C) Information ratio.

Question #58 of 60

Question ID: 692301

Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

Exhibit 1: Magna Alpha Fund

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Cash	3%	3%	1%

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Holt then obtains data on three active funds specializing in commodities investing. Exhibit 2 presents data on these funds.

Exhibit 2: Fund Data

Fund	*Prime*	*Redux*	*Optimus*
Expected active return	2.40%	1.25%	1.28%
Active risk	6%	5%	4%

McGuire recommends that Holt investigate two other funds, run by active managers A and B, as well. Exhibit 3 shows the relevant information.

Exhibit 3: Active Managers A and B

Manager A: Invests in stocks and makes bets annually. Has an information coefficient of 0.20 and transfer coefficient of 0.4.
Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

.....

Using the information in Exhibit 2, which fund would be *most* suitable for an investor with a constraint of maximum active risk of 5%?

A) Prime.

B) Redux.

C) Optimus.

Question #59 of 60

Question ID: 691492

Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

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Asset Class (i)	*Portfolio Return* $E(R_{Pi})$	*Benchmark Return* $E(R_{Bi})$	*Active Weight*
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Holt then obtains data on three active funds specializing in commodities investing. Exhibit 2 presents data on these funds.

Exhibit 2: Fund Data

Fund	*Prime*	*Redux*	*Optimus*
Expected active return	2.40%	1.25%	1.28%
Active risk	6%	5%	4%

McGuire recommends that Holt investigate two other funds, run by active managers A and B, as well. Exhibit 3 shows the relevant information.

Exhibit 3: Active Managers A and B

Manager A: Invests in stocks and makes bets annually. Has an information coefficient of 0.20 and transfer coefficient of 0.4.
Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

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To achieve the same information ratio as Manager B, the number of stocks that Manager A must make independent bets on is *closest* to:

A) 14.

B) 19.

C) 22.

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Terry Holt, CFA, is an investment consultant that advises several institutional clients, including pension funds and endowments. Holt is evaluating the performance of Magna Alpha fund. He obtains the fund's active weights and expected returns relative to the benchmark as shown in Exhibit 1.

Exhibit 1: Magna Alpha Fund

Asset Class (i)	*Portfolio Return* $E(R_{Pi})$	*Benchmark Return* $E(R_{Bi})$	*Active Weight*
Equities	13%	12%	10%
Bonds	7%	5%	-11%

Cash	3%	3%	1%

Bill McGuire, Holt's supervisor, makes the following statements:

1. The optimal risky portfolio for any investor is the one with the highest Sharpe ratio irrespective of the risk tolerance of the client.
2. The Sharpe ratio would be the same as the information ratio for a market-neutral long-short equity fund that has the risk-free asset as the portfolio's benchmark.

Holt then obtains data on three active funds specializing in commodities investing. Exhibit 2 presents data on these funds.

Exhibit 2: Fund Data

Fund	*Prime*	*Redux*	*Optimus*
Expected active return	2.40%	1.25%	1.28%
Active risk	6%	5%	4%

McGuire recommends that Holt investigate two other funds, run by active managers A and B, as well. Exhibit 3 shows the relevant information.

Exhibit 3: Active Managers A and B

Manager A: Invests in stocks and makes bets annually. Has an information coefficient of 0.20 and transfer coefficient of 0.4.
Manager B: Unconstrained optimization involving monthly bets on market timing (rotation between equity and cash). Manager B is correct 55% of the time.

Holt mentions to McGuire that one has to be careful about actively managed funds that are actually closet index funds. These funds tend to be characterized by very low active risk, low information ratio, and a Sharpe ratio that is almost the same as the Sharpe ratio for the fund's benchmark.

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Holt is *least likely* to be correct about which factor as an indicator of a closet index fund?

A) Low active risk.

B) Low information ratio.

C) Same Sharpe ratio as the benchmark.